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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,378	12/27/2000	Kazuhiko Harasaki	PNDF-00147	3809

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EXAMINER

SINGH, RAMNANDAN P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/748,378

Applicant(s)

HARASAKI ET AL.

Examiner

Ramnandan Singh

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/01-26-2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy, in Japanese, has been received.

Specification

3. The disclosure is objected to because of the following informalities:

On page 6, line 1, delete "and".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2644

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Saito [US 5,712,910].

Regarding claim 1, Saito teaches a telephone subscriber signal control device for calling a telephone set **(5)** connected to a subscriber circuit by means of a ringing signal **(3)** when an incoming call is outputted from a subscriber circuit terminating device shown in **Fig. 5**, wherein:

the subscriber circuit terminating device comprises:

a zero crossing point detection circuit **(73)** for generating a zero crossing synchronization signal (i.e. **output of hold control signal generator 74**) synchronous with a zero potential of the ringing signal (i.e. **AC ringing signal period detector 72**) wherein the AC ringing periodic signal has a zero potential at a zero-crossing;

an order output timing adjustment circuit comprising an order drop circuit (i.e. **drive circuit 76**), an order buffering section (i.e. **hold circuit 75**), and an order output control circuit (i.e. **Hold control signal generator 74**) for adjusting output timing of a ringing control order for controlling ringing relay **switch (6)** of the subscriber circuit synchronously with the zero crossing point synchronization signal; and

the telephone set **(5)** called by the ringing signal through the subscriber circuit synchronously with the zero crossing point synchronization signal (i.e. **output of Hold Control Signal Generator 74**) in accordance with reception of an order to output a

Art Unit: 2644

command to turn on the ringing relay **switch (6)** from an order output device (i.e. **Drive circuit 76**) connected to the subscriber terminating device [Fig. 5; col. 4, lines 1-53].

Regarding claim 2, Saito further teaches the subscriber circuit terminating device comprises an order buffering section (i.e. **Hold circuit 75**) specifying the subscriber circuit ringing, the ringing signal in accordance with the reception of the order from the order output device, provided for the subscriber circuit and taking timing by delaying the order reception signal (i.e. **Hold control signal generator 74**) [Fig. 5; col. 13-22].

Regarding claim 3, Saito teaches a subscriber circuit terminating device shown in Fig. 5, including a ringing signal transmission device **(3)**, for supplying a ringing signal to a subscriber circuit, comprising:

a zero crossing point detection circuit **(73)** generating a zero crossing point synchronization signal (i.e. **output of hold control 74**) synchronous with a zero potential of the ringing signal (i.e. **an output of the AC ringing signal period detector 72**) wherein the AC ringing signal is a periodic AC signal, and has a zero potential at some point in time;

an order output timing adjustment circuit **comprising** an order drop circuit (i.e. **drive circuit 76**), an order buffering section (i.e. **hold circuit 75**), and an order output control circuit (i.e. **Hold control signal generator 74**) adjusting output timing of a ringing control order controlling a ringing relay **switch (6)** of the subscriber circuit

Art Unit: 2644

given amount of delay provided by the delay register (314) [Figs. 2, 6, 7; col. 4, lines 58-68; col. 5, line 49 to col. 6, line 27; col. 2, lines 45-61; col. 9, lines 27-62].

However, Yang does not teach expressly the echo control device for a multi-channel communication facility that carries multiple communication channels over a communication path.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to repeat the single channel echo control device of Yang with a **multi-channel** communication facility carrying **multiple** communication channels over a communication path to simultaneously provide echo free long distance telephonic communications.

Claim 35 is essentially similar to claim 12 and is rejected for the reasons stated above.

Allowable Subject Matter

9. Claims 2-11, 13-23, 25-34 and 36-46 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito as applied to claim 4 above.

Regarding claim 5, Saito teaches a subscriber circuit terminating device having a single subscriber circuit, a single order buffering section (75); and a single order output control circuit (74) shown in Fig. 5. However, Saito does not teach expressly a subscriber circuit terminating device having a plurality of the subscriber circuits; a plurality of the order buffering sections; and a plurality of the order output control circuits.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to repeat the single subscriber circuit technique of the subscriber circuit terminating device of Saito with a subscriber circuit terminating device having a plurality of the subscriber circuits, in order to serve a plurality of customers. In addition, to meet additional future demands for new subscribers, it is imperative that the number of order

Art Unit: 2644

buffer sections and the number of the order output control circuits provided herewith are greater than the number of the subscriber circuits.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito as applied to claim 4 above, and further in view of Chea, Jr. et al [US 4,456,991].

Regarding claim 6, Saito does not teach expressly a subscriber circuit terminating device having an order drop circuit, an order buffering section and an order output control circuit constituted out of one LSI circuit. However, implementing a subscriber line interface circuit and system by semiconductor fabrication techniques such as large-scale integration(LSI) is well-known in the art.

Chea, Jr. et al teach implementing a subscriber line interface circuit and system by a large-scale integration(LSI) technique integrating several circuits on single chip [col. 3, lines 10-14; col. 12, lines 55-65].

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to integrate several circuits including an order drop circuit, an order buffering section and an order output control circuit of Saito using a large-scale integration (LSI) technique on a single chip to reduce the size and manufacturing cost of the system [Chea, Jr. et al; col. 3, lines 12-14].

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(i) Kelly [US 4860,287] teaches a method for ring synchronization using zero-crossings [Fig. 5D; col. 4, lines 1-14; col. 6, lines 48-55; col. 9, line 23 to col. 10, line 45];

(ii) Sparks [US 4,965, 811] discloses a method for time recovery using a marker zero-crossing [Fig. 5]; and

(iii) Tanimoto et al teach a subscriber line interface circuit using large-scale integration [col. 2, lines 55-61].

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramnandan Singh whose telephone number is (703)308-6270. The examiner can normally be reached on M-F(8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester Isen can be reached on (703)-305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramnandan Singh
Examiner
Art Unit 2644

A handwritten signature in black ink, appearing to read 'RNS', is written over the printed name of the examiner.